

What is claimed is:

1. A method for enhancing an existing communication session by providing collaborative browsing, comprising:

5 (a) establishing a collaborative browsing session between a first participant and a second participant, the first participant participating in the collaborative browsing session via a first device and the second participant participating in the collaborative browsing session via a second device;

10 (b) analyzing HTTP requests made by a browser running on the first device to create a set of instructions for duplicating the first participant's browsing experience for the second participant;

(c) transmitting the set of instructions from the first device to the second device; and

15 (d) using the received set of instructions to duplicate the first participant's browsing experience for the second participant.

2. The method of claim 1, wherein the collaborative browsing session is established by a server that implements a session-setup procedure.

3. The method of claim 2, wherein session-setup procedure comprises the steps of:
20 transmitting a message from the first device to the server requesting establishment of a collaborative browsing session, the message specifying a session name and a username for the first participant;

initiating software on the first device adapted to facilitate collaborative browsing;
transmitting a message from the first participant to the second participant, the
25 message including the session name;

transmitting a message from the second device to the server, the message including the session name and specifying a username for the second participant;

initiating software on the second device adapted to facilitate collaborative browsing;
transmitting a message to the second device, the message including an IP address for
30 the first device;

transmitting a message from the second device to the first device, the message including the second participant's username;

accepting by the first participant the presence of the second participant in the collaborative browsing session;
establishing a communication session between the first device and the second device.

5 4. The method of claim 3, wherein the software necessary to implement steps (b) and (c) is downloaded to the first device if not already resident on that device at the time of the request to establish a collaborative browsing session.

10 5. The method of claim 3, wherein establishing the communication session comprises establishing a TCP/IP or UDP socket.

15 6. The method of claim 1, further comprising:
analyzing HTTP requests made by a browser running on the second device to create a set of instructions for duplicating the second participant's browsing experience for the first participant;
transmitting the set of instructions from the second device to the first device;
using the received set of instructions to duplicate the second participant's browsing experience for the first participant.

20 7. The method of claim 1, wherein a third participant joins the collaborative browsing session, the third participant participating in the collaborative browsing session via a third device, and further comprising the steps of:
transmitting the set of instructions from the first device to the third device;
using the received set of instructions to duplicate the first participant's browsing
25 experience for the third participant.

 8. The method of claim 7, wherein the second participant is informed when the third participant joins the session.

30 9. The method of claim 7, further comprising the steps of:

analyzing HTTP requests made by a browser running on the third device to create a set of instructions for duplicating the third participant's browsing experience for the first and second participants;

transmitting the set of instructions from the third device to the first and second devices;

using the received set of instructions to duplicate the third participant's browsing experience for the first and second participants.

10. The method of claim 1, wherein a participant can create a joint or private chat session with another participant.

11. The method of claim 1, wherein a display is presented to each participant indicating the device from which an HTTP request originated that resulted in a particular aspect of the browsing experience.

12. The method of claim 1, wherein the first participant has a dedicated Web page from which a participant may initiate or join a collaborative session.

13. The method of claim 1, wherein a chat window is provided to allow the participants to communicate in real time as part of the collaborative browsing session.

14. The method of claim 1, wherein a file transfer program is provided to facilitate transferring files between participants during the collaborative browsing session.

15. The method of claim 1, wherein, at a participant's request, a voice over IP program is initiated that adds real-time voice or video to the collaborative browsing session.

16. The method of claim 1, wherein, at a participant's request, an application sharing program is initiated during the collaborative browsing session.

17. The method of claim 1, wherein the first participant is provided with control of the participation capabilities of one or more other participants.

18. The method of claim 17, wherein the control includes having control to mute one or more participants in the collaborative browsing session.

19. The method of claim 17, wherein the control includes having control to stop one or more participants from leading the collaborative browsing session.

20. The method of claim 17, wherein the control includes having control to drop one or more participants from the collaborative browsing session.

21. The method of claim 1, wherein the first participant designates the session public and specifies a topic for the session, and wherein other participants find and join the session by going to a Web site.

22. The method of claim 1, wherein a media stream is encountered as part of a collaborative browsing session, and wherein media players of all participants are synchronized to the same relative time in the media stream.

23. The method of claim 22, wherein the media stream is video, audio, or animation.

24. The method of claim 22, wherein the media stream on the media players of all participants remain synchronized as one or more participants play, pause, rewind, or fast forward the media stream.

25. The method of claim 22, wherein a participant joining a session automatically joins the media stream at the same point in the media stream currently being played to other session participants.

26. The method of claim 1, wherein one of the participants is behind a firewall, and the other participant is not behind that firewall.

27. The method of claim 26, wherein the participant behind the firewall transmits an HTTP request to a second server, and receives a message from the other participant that is routed via the second server and perceived by the firewall as a response to the HTTP request.

5 28. The method of claim 1, wherein a language-translation server enables multi-lingual collaborative browsing for participants speaking different languages.

29. The method of claim 1, wherein a URL-filtering server is used to block objectionable sites from the collaborative browsing session.

10 30. The method of claim 1, wherein software is provided that is adapted to permit set up of a voice call, video call, voice conference call, or video conference call between participants during the collaborative browsing session.

15 31. The method of claim 1, wherein a pay-per-view media stream is shared by the participants by agreement with the media owner for one user to pay and then provide temporary viewing of the media stream to one or more other participants.

20 32. The method of claim 1, wherein one or more of the devices is a computer.

33. The method of claim 1, wherein one or more of the devices is a mobile cellphone.

34. The method of claim 1, wherein one or more of the devices is a PDA.

25 35. The method of claim 1, wherein one or more of the devices is an interactive television set and the synchronization of media includes the broadcast TV content.

30 36. The method of claim 1, wherein the first device and second device are different types of devices, and wherein the collaborative browsing session navigates to Web sites that support content viewable by the different types of devices.

37. The method of claim 36, wherein the devices adapt common content at the Web sites for viewing.

38. The method of claim 1, wherein step (b) is performed by software running on the first device.

39. The method of claim 38, wherein the software receives HTTP-request notifications from a browser running on the first device via the browser API.

40. The method of claim 38, wherein the software comprises a state machine.

41. The method of claim 1, further comprising:
receiving notification of an HTTP request;

determining whether or not it is necessary to transmit a URL that is the subject of the HTTP request to the second device in order for the second device to recreate for the second participant the first participant's browsing experience;

if it is necessary to transmit the URL that is the subject of the HTTP request to the second device in order for the second device to recreate for the second participant the first participant's browsing experience, then transmitting the URL that is the subject of the HTTP request to the second device.

42. The method of claim 1, further comprising:

determining whether a URL that is the subject of an HTTP request is a top-level URL for a Web page; and

if the URL that is the subject of the HTTP request is a top-level URL for a Web page, transmitting the requested URL immediately to the second device.

43. The method of claim 42, wherein the step of determining whether a URL that is the subject of an HTTP request is a top-level URL for a Web page comprises examining a dispatch interface pointer included with an HTTP-request notification.

44. The method of claim 1, further comprising:

determining whether a URL that is the subject of an HTTP request is a top-level URL for a Web page; and

if the URL that is the subject of the HTTP request is not a top-level URL, then:

identifying a highest-level frame in the browser display that has a new URL;

transmitting the new URL and an identifier for the highest-level frame to the second device.

45. The method of claim 44, wherein the step of identifying is performed upon receipt of a frame-fully-loaded notification.

46. The method of claim 44, wherein the step of identifying is performed upon expiration of a timer.

47. The method of claim 46, wherein the timer is set as a function of the average time and standard deviation to complete an HTTP request.

48. The method of claim 44, wherein the step of identifying comprises:
recording the URLs of each frame in the browser's display before the HTTP request is completed;

recording the URLs of each frame in the browser's display after the HTTP request is completed; and

comparing results of the first recording to results of the second recording.

49. A system for providing collaborative browsing, comprising:

a) a packet network;

b) a first device connected to the packet network, the first device being in the possession of a first participant;

c) a second device connected to the packet network, the second device being in the possession of a second participant, the first and second participants being in communication;

and

d) the first device comprising software adapted to analyze HTTP requests made by a browser running on the first device to create a set of instructions for duplicating the first participant's browsing experience for the second participant.

5 50. The system of claim 49, wherein the second device comprises software adapted to analyze HTTP requests made by a browser running on the second device to create a set of instructions for duplicating the second participant's browsing experience for the first participant.

10 51. The system of claim 49, further comprising:
a third device connected to the packet network, the third device being in the possession of a third participant;
the third device comprising software adapted to analyze HTTP requests made by a browser running on the third device to create a set of instructions for duplicating the third
15 participant's browsing experience for the first and second participants.

 52. The system of claim 49, further comprising a server adapted to establish a collaborative browsing session at the request of one of the participants.

20 53. The system of claim 52, wherein a session name for the collaborative browsing session is passed to the second participant from the first participant via a communications means external to the packet network.

25 54. The system of claim 49, wherein the apparatus of claim 49 is incorporated into an instant messaging program to enhance an instant messaging session.

 55. The system of claim 49, wherein the apparatus of claim 49 is incorporated into a Web initiated voice or video conferencing system to enhance a conferencing session.

30 56. The system of claim 49, wherein the apparatus of claim 49 is incorporated into a mobile short message system utilized by mobile devices to enhance a conversation conducted using the short message system.

57. The system of claim 49, further comprising a second server adapted to transmit messages to a participant behind a firewall that are perceived by the participant as responses to HTTP requests.

5 58. The system of claim 49, further comprising a language-translation server that enables multi-lingual collaborative browsing for participants speaking different languages.

59. The system of claim 49, further comprising a third server adapted to approve or disapprove particular Web content for use during a collaborative browsing session.

10 60. The system of claim 49, further comprising software adapted to permit set up of a voice call, video call, voice conference call, or video conference call between participants.

15 61. The system of claim 49, wherein one or more of the devices is a computer.

62. The system of claim 49, wherein one or more of the devices is a mobile cellphone.

20 63. The system of claim 49, wherein one or more of the devices is a PDA.

64. The system of claim 49, wherein one or more of the devices is an interactive television set and the synchronization of media includes the broadcast TV content.

25 65. The system of claim 49, wherein the first device and second device are different types of devices, and wherein the collaborative browsing session navigates to Web sites that support content viewable by the different types of devices.

30 66. The system of claim 65, wherein the devices adapt common content at the Web sites for viewing.